**Genome contains many genes which are a source of heredity information**

Section A

Fill in the blanks for the following:

1. The basic unit of structure and function in living things is called ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
a. genes b. chromosomes c. cells d. proteins

2. The passing of characteristics from parent to offspring is called ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
a. genetics b. heredity c. chromosome d. proteins

3. Genes are coded information telling the cell how to build these chemicals ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
a. chromosomes b. DNA c. RNA d. proteins

4. Visible characteristics are called­­­­­­­­­­­­­­­­­­­­­­­­­­­­­ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
a. chromosomes b. DNA c. traits d. proteins  
  
5. Genes are made of a chemical called ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
a. chromosomes b. DNA c. RNA d. proteins

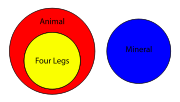
6. Genes are located on larger structures called ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
a. chromosomes b. DNA c. RNA d. protein

7. Biochemical structures inside cells that carry traits from one generation to the next ­­­­­­­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  
a. RNA b. chromosomes c. genes d. proteins

Section B

Write your answers in the space provided.

1. With an Euler diagram, demonstrate the relationship of chromosome, DNA and gene.

A **Euler diagram** is a [diagrammatic](http://en.wikipedia.org/wiki/Diagram) means of representing [sets](http://en.wikipedia.org/wiki/Set_(mathematics)) and their relationships. They usually consist of simple closed curves in the plane which are used to depict sets. The spatial relationships between the curves (overlap, containment or neither) corresponds to set-theoretic relationships (intersection, subset and disjointness). An example of the Euler diagram is shown:[](http://en.wikipedia.org/wiki/File:EulerDiagram.svg)

1. With respect to your ability to roll your tongue or not, write a few lines using the following words to explain whether you are able to roll your tongue or not, and why is it the case: **heredity, DNA, gene, chromosome**